

REMARKS

This amendment and reply is in response to the Office Action of May 11, 2011. Claims 12 and 14-22 were in the application. Claims 1-11 and 13 are cancelled without prejudice. Claims 12 and 14-22 have been amended. No new matter is added. Support for the amendment can be found, for example, at paragraphs 26-28 and Figures 2 and 3 of U.S. Pub. No. 2007/0084237, the published application in the present matter. In amending the claims, Applicant does not concede that the claims as originally presented are unpatentable over the references cited in the Office Action and reserves the right to pursue the previously presented claims in one or more continued applications. Claims 12 and 14-22 are presented for examination. In view of the foregoing amendment and following remarks, Applicant believes the claims are in condition for allowance, which action is requested.

Claim Objections

Claims 14-22 are objected to as lacking proper antecedent basis. The claims have been amended as the Examiner indicated thereby obviating the objection.

Rejections under 35 U.S.C. § 112

Claims 12 and 14-22 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The Examiner indicates that the use of the terms "a conduit" and "a conduit portion" are confusing. Claim 12, as amended, clarifies that the conduit comprises a U-shaped portion. With reference to Figures 1 and 2, "the conduit 5 extends from the expansion valve 3 into the inlet channel 33 for the cooling agent for supplying the cooling agent to the third porthole channel 23 and the second passages 19." U.S. Pub. No. 2007/0084237, at ¶26. With reference to Figure 3, "the conduit portion 6 extends in a U-shaped path in the outlet channel 34 for the

cooling agent. One of skill in the art would understand that "a conduit" includes the U-shaped conduit portion. Applicant requests the rejection be withdrawn.

Rejections under 35 U.S.C. § 103

Claims 12, 14-15 and 18-22 are rejected under 35 U.S.C. § 103 as being unpatentable over Dienhart et al (US 6,189,334) in view of Fuerschbach (US 4,815,534). Claim 12 requires a conduit extending to the inlet channel for the cooling agent thereby supplying the cooling agent to the second passages, wherein the conduit includes a U-shaped conduit portion extending into and out of the outlet for the cooling agent. As such, heat transfer occurs between the cooling agent flowing out of the second passage and the cooling agent flowing through the U-shaped conduit portion.

Dienhart does not disclose this feature. To the contrary, Dienhart discloses the heat transfer medium to be cooled as flowing through the collector.

Dienhart refers to an air conditioner circuit. *See* Dienhart, Fig. 1. Dienhart discloses an air conditioner circuit comprising a compressor 10, a condenser 11, and expansion valve 12 and an evaporator 13. The same fluid (a refrigerant) flows through the circuit. The temperature of the fluid increases after the compressor 10, decreases in the condenser 11, and is further decreased when passing the expansion valve 12. The fluid temperature then increases in the evaporator 13.

Dienhart further discloses that the fluid flowing in the condenser 11 is cooled by the air flowing through the interspaces between the tubes 17 in contact with the corrugated fins 18. The fluid exits the condenser 11 and the tubes 17 via the lateral outlet collector tube 16. The fluid is then conveyed to the collector 14 via a line 28. From the collector 14, the fluid is conveyed to the expansion valve 12 via the connection 19 and the from the expansion valve 12 to the evaporator 13. From the evaporator 13, the fluid is conveyed to the tube coil 20 via the inlet 21. The tube coil 20 is provided in the collector 14. The fluid is then returned from the tube coil 20 back to the compressor 10 via the outlet 22.

The tube coil 20 in the collector 14 allows heat to be transferred from the fluid surrounding the tube coil 20 and to the fluid in the tube coil 20 (*see* Dienhart at col. 3, lines 1-6). The fluid surrounding the tube coil 20 and flowing inside the tube coil 20 is the same fluid. Thus, from a system perspective, heat must be conveyed from the fluid in the circuit to some other fluid or structure. In Dienhart this other fluid is air that surrounds the corrugated fins 18 of the condenser 11. Consequently, the fluid in the circuit cannot at the same time be both the heat transfer medium to be cooled and a cooling agent. In the air conditioner described in Dienhart, the system would not function if heat was not conveyed from the fluid in the circuit to the air.

As such, the fluid flowing through tubes 17 of the condenser 11 of Dienhart can only be the heat transfer medium to be cooled. Applicant respectfully submits that the fluid flowing through tubes 17 of Dienhart corresponds to the heat transfer medium of recited in claim 12. Likewise, the air flowing in contact with the corrugated fins 18 in Dienhart corresponds to the cooling agent recited in claim 12.'

Consequently, Dienhart does not disclose the claimed features of a conduit extending into the inlet channel for the cooling agent, and a U-shaped conduit portion extending into and out of the outlet channel for the cooling agent. Indeed, the corresponding features in Dienhart convey the heat transfer medium to be cooled, not the cooling agent.

One of skill in the art, in combining the features Dienhart in view of Fuerschbach would realize that the function of the two heat exchange media associated with the condenser 11 of Dienhart would have to be inverted so that the fluid flowing in the tubes is to be heated and the air flowing in contact with the external fins 18 of the tubes 17 is to be cooled. Nowhere in either Dienhart or Fuerschbach is such a modification suggested or a reason for such modification given.

The mere fact that the prior-art reference could be modified does not satisfy the requirements for a finding of obviousness. *In re Laskowski*, 871 F.2d 115, 117 (Fed. Cir. 1989); *In re Mills*, 916 F.2d 680, 682 (Fed. Cir. 1990). And as the Supreme Court explained, "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal

conclusion of obviousness.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1740-41 (U.S. 2007). In that regard, “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *Id.*

In addition, claim 12 requires “a pipe which extends outwardly from the fourth porthole channel and plate package, wherein the U-shaped conduit portion extends at least into and out of the pipe.” Dienhart only discloses a collector 14, which is provided outside the tubes 17. No pipe that extends outwardly from a porthole is disclosed. And Fuerschbach does not cure this defect.

For at least these reasons, claims 12, 14-15 and 18-22 should be allowable. Applicant respectfully requests withdrawal of the rejections.

Claims 16 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dienhart in view of Fuerschbach in further view of Watanabe et al (US 6,928,883). Claims 16 and 17 are dependent on claim 12, as amended, and should be allowable for at least the same reasons as discussed above. Watanabe does not cure the defects of Dienhart in view of Fuerschbach. Applicant respectfully requests withdrawal of the rejections.

Conclusion

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper.

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Please apply any necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number 09546-0028US1.

Respectfully submitted,

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